

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

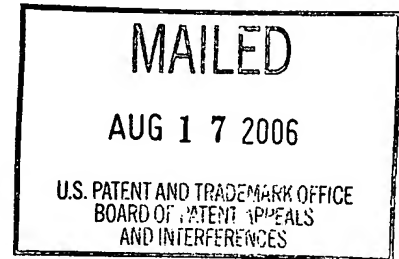
UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte Yun Ling and Daniel T. Tong

Appeal No. 2006-0542
Application No. 10/054,083

ON BRIEF¹



Before JERRY SMITH, BARRY, and MacDONALD, *Administrative Patent Judges*.
BARRY, *Administrative Patent Judge*.

A patent examiner rejected claims 1, 3-11, and 13-19. The appellants appeal therefrom under 35 U.S.C. § 134(a). We affirm.

I. BACKGROUND

The invention at issue on appeal concerns card-edge connectors. Card-edge connectors are included on many printed circuit boards used in computers to accommodate add-on system components, e.g., modems, Ethernet cards, memory repositories, wireless modems. (Spec., ¶¶ 1-2.)

¹An oral hearing was waived.

A conventional card-edge connectors feature a slot balanced along its length by two opposing planar surfaces. A card having a trace-covered edge is inserted into the slot by positioning the trace-covered edge over the slot and pressing sharply downward on the top edge of the card. This action deflects contact springs inside the slot and forces the card into the slot. (*Id.*, ¶ 3.) According to the appellants, however, "[a] common complaint among assembly line workers is that the amount of user force required to insert cards into card-edge connectors is excessive." (*Id.*, ¶ 5.)

The appellants' card-edge connector also includes a slot for receiving a contact surface of a card. Levers are movably coupled with the connector. Each lever includes an engaging member and a contact surface that joins with the card's contact surface to depress the card into the slot when the lever is moved from an open position to a service position. (*Id.*, abs.)

A further understanding of the invention can be achieved by reading the following claim.

1. A card-edge connector assembly, comprising:

a connector having a slot therein to receive an edge portion of a card; and

a lever mechanism movably coupled to the connector and having an engaging surface positioned on the lever mechanism to apply a lever force on the card during insertion of the card in the slot of the connector,

wherein the engaging surface is adapted to contact a contact surface on the card.

Claims 1, 3-11, and 13-19 stand rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 5,603,625 ("Tondreault") and U.S. Patent No. 5,470,240 ("Suzuki").

II. OPINION

Our opinion addresses the claims in the following order:

- claims 1, 3-11, and 13
- claims 14-19.

A. CLAIMS 1, 3-11, AND 13

"When multiple claims subject to the same ground of rejection are argued as a group by appellant, the Board may select a single claim from the group of claims that are argued together to decide the appeal with respect to the group of claims as to the ground of rejection on the basis of the selected claim alone. Notwithstanding any other provision of this paragraph, the failure of appellant to separately argue claims which appellant has grouped together shall constitute a waiver of any argument that the Board

must consider the patentability of any grouped claim separately." 37 C.F.R.

§ 41.37(c)(1)(vii) (Sep. 30, 2004). When the patentability of dependent claims in particular is not argued separately, the claims stand or fall with the claims from which they depend. *In re King*, 801 F.2d 1324, 1325, 231 USPQ 136, 137 (Fed. Cir. 1986); *In re Sernaker*, 702 F.2d 989, 991, 217 USPQ 1, 3 (Fed. Cir. 1983).

Here, the appellants argue claims 1 and 3-10, which are subject to the same ground of rejection, as a group. (Appeal Br. at 3-8.) They likewise argue claims 11 and 13, which are subject to the same ground of rejection, as a group. (*Id.* at 8-9.) For our part, we select claims 1 and 11 as the sole claims on which to decide the appeal of the respective groups.

"Rather than reiterate the positions of the examiner or the appellants *in toto*, we focus on the point of contention therebetween." *Ex parte Muresan*, No. 2004-1621, 2005 WL 951659, at *1 (Bd.Pat.App & Int. Feb 10, 2005). The examiner finds, "Suzuki teaches, at column 3, lines 47-57), which states in part, 'The first and second levers 39 are for prying in cooperation with the card 21 to put the card 21 into and out of mechanical contact with the card edge connector and to bring the connecting pads 25 into and out of electrical contact with the conductive contacts 17.' This teaching is deemed by the Office as an engaging surface positioned on a lever mechanism to

apply a lever force on the card during insertion of the card in the slot of the connector. . . ." (Examiner's Answer at 12.) The appellants argue, "None of the figures show a situation where the alleged engaging surface . . . is contacting the alleged contact surface on the card . . . during the card insertion." (Appeal Br. at 8.)

"In addressing the point of contention, the Board conducts a two-step analysis. First, we construe the representative claim at issue to determine its scope. Second, we determine whether the construed claim would have been obvious." *Ex Parte Massingill*, No. 2003-0506, 2004 WL 1646421, at *2 (Bd.Pat.App & Int. 2004).

1. Claim Construction

"Analysis begins with a key legal question — *what is the invention claimed?*" *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1567, 1 USPQ2d 1593, 1597 (Fed. Cir. 1987). In answering the question, "the PTO gives claims their 'broadest reasonable interpretation.'" *In re Bigio*, 381 F.3d 1320, 1324, 72 USPQ2d 1209, 1211 (Fed. Cir. 2004) (quoting *In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1668 (Fed. Cir. 2000)).

Here, claim 1 recites in pertinent part the following limitations: "lever mechanism to apply a lever force on the card during insertion of the card in the slot of the

connector. . . ." Besides reciting similar limitations, claim 11 also specifies "actuating the lever mechanism. . . ." Giving the representative claims their broadest, reasonable construction, the limitations require a lever for applying a force to a card during insertion of the card in the slot of a connector and actuation of that lever.

2. Obviousness Determination

"Having determined what subject matter is being claimed, the next inquiry is whether the subject matter would have been obvious." *Massingill*, at *3. The question of obviousness is "based on underlying factual determinations including . . . what th[e] prior art teaches explicitly and inherently. . . ." *In re Zurko*, 258 F.3d 1379, 1383, 59 USPQ2d 1693, 1696 (Fed. Cir. 2001) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966); *In re Dembiczak*, 175 F.3d 994, 998, 50 USPQ2d 1614, 1616 (Fed. Cir. 1999); *In re Napier*, 55 F.3d 610, 613, 34 USPQ2d 1782, 1784 (Fed. Cir. 1995)). "A *prima facie* case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art." *In re Bell*, 991 F.2d 781, 783, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993) (quoting *In re Rinehart*, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976)).

Here, Suzuki "provide[s] a card edge connector . . . in which easy attachment and detachment of the card board is further facilitated." (Col. 1, ll. 39-42.) "In the card edge connector 31, first and second levers 39(1) and 39(2) are pivoted in the voids at the right and the left ends by short axles to the front and the back extensions." (Col. 3, ll. 37-39.) "The first and the second levers 39 are for prying in cooperation the card board 21 to put the card board 21 into and out of mechanical contact with the card edge connector 31 and to bring the connecting pads 25 into and out of the electric connection with the conductive contacts 17." (*Id.* at ll. 48-52.) "More particularly, the first and the second levers 39 are provided with first and second side projections 43(1) and 43(2) at their inward edges. The first and the second side projections 43 (suffixes omitted) are situated so as to fit in the side recesses 27 (suffixes omitted) when the card board 21 is put in place." (*Id.* at ll. 52-57.)

The appellants admit, "A careful reading of the Suzuki reference as a whole shows that the first lever 39(1) assists in the insertion of the card. . . ." (Appeal Br. at 7.) More specifically, the reference explains that "the first lever 39(1) is used first to support the card board 21 at its one of the side card edges by cooperation of the side projection 43(1) with the side recess 27(1) (FIG. 2)." (Col. 4, ll. 2-5.)

For our part, we find that the first lever 39(1) is actuated to apply a rotational force to the card (21) during insertion of the card in the slot of the connector 31. To wit, "the first lever 39(1) is inwardly pushed manually or otherwise to rotate the card board 21 as indicated by a counterclockwise arrow I." (*Id.* at ll. 15-17.) By that rotational force, "the card board 21 is brought into mechanical contact with the card edge connector 31," (*id.* at ll. 20-21), and "the card board 21 is put in place." (*Id.* at l. 24.) Therefore, we affirm the rejection of claims 1 and 11 and of claims 3-10 and 13, which fall therewith.

B. CLAIMS 14-19

The appellants argue claims 14-19, which are subject to the same ground of rejection, as a group. (Appeal Br. at 10-11.) We select claim 14 the sole claim on which to decide the appeal of the group.

The examiner finds, "Tondreault discloses an assembly comprising . . . a first case attached to a first end of the connector, the first case having first and second opposing planar surfaces defining a channel therebetween (for example, see elements 12, 20, Figs 1-5, see columns 1-4), and having a hole formed in each planar surface (for example, see holes that elements 28 are engaged with, best shown at Fig 1). . . ." (Examiner's Answer at 8.) The appellants argue, "upon reference to the

figures, and particularly Fig. 1 of Tondreault, it is seen that the walls of the connector do not have any holes formed therethrough." (Appeal Br. at 10.)

1. Claim Construction

"[L]imitations are not to be read into the claims from the specification." *In re Van Geuns*, 988 F.2d 1181, 1184, 26 USPQ2d 1057, 1059 (Fed. Cir. 1993) (citing *In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989)). Here, contrary to the appellants' argument, claim 14 does not specify a hole formed "through" a connector wall. To the contrary, the representative claim recites in pertinent part the following limitations: "a first case attached to a first end of the connector, the first case having first and second opposing planar surfaces defining a channel therebetween, and having a hole formed in each planar surface. . . ." Giving claim 14 its broadest, reasonable construction, the limitations require holes formed in opposing walls of a connector.

2. Obviousness Determination

Tondreault discloses "[a]n electrical connector . . . for receiving a daughtercard. . . ." (Col. 2, ll. 16-17.) "The connector includes a socket formed to include an elongated slot for receiving the daughtercard therein. . . ." (*Id.* at ll. 19-21.) "Both ends of socket 10 are formed to include an opening 20 having an identical configuration for

receiving an ejector 22 therein. An ejector 22 is pivotably coupled to each end of socket 10 within opening 20." (Col. 3, ll. 19-22.)


Each "[e]jector 22 includes a body portion 24 and a head 26 formed integrally with body portion 24 to facilitate pivotal movement of ejector 22." (*Id.* at ll. 27-29.) More specifically, "[a] pair of axles 28 are formed on opposite sides of body portion 24. Axles 28 define a pivot axis 30 which is generally perpendicular to elongated slot 14 formed along a longitudinal axis of socket 10." (*Id.* at ll. 31-34.) We find that a person of ordinary skill in the art would have understood that holes must be formed in the opposing walls of the connector to receive the axles 28 of each ejector 22 so that the ejector can pivot thereabout. For similar reasons, we further find that a person of ordinary skill in the art would have understood that holes must be formed in the opposing walls of Suzuki's connector 31 to receive the axles (see Figs. 4A-4C), of each lever 39 so that the ejector can pivot thereabout. Therefore, we affirm the rejection of claim 14 and of claims 15-19, which fall therewith.

III. CONCLUSION

In summary, the rejection of claims 1, 3-11, and 13-19 under § 103(a) is affirmed.

"Any arguments or authorities not included in the brief or a reply brief filed pursuant to § 41.41 will be refused consideration by the Board" 37 C.F.R. § 41.37(c)(1)(vii). Accordingly, our affirmance is based only on the arguments made in the briefs. Any arguments or authorities omitted therefrom are neither before us nor at issue but are considered waived. *Cf. In re Watts*, 354 F.3d 1362, 1367, 69 USPQ2d 1453, 1457 (Fed. Cir. 2004) ("[I]t is important that the applicant challenging a decision not be permitted to raise arguments on appeal that were not presented to the Board.") No time for taking any action connected with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

Jerry Smith
JERRY SMITH
Administrative Patent Judge


LANCE LEONARD BARRY
Administrative Patent Judge

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